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FW: Review commentsJuly 7 (3)

Bush, Richard to Andrew Bain

07/13/2009 01:16 PM

Cc: "Plieness, Ray", "Pauling, Tom"

Andy, please find attached our comments on the Church Rock EE/CA. Give a call with any questions.

Richard P. Bush
Site Manager
DOE Office of Legacy Management
2597 B 3/4 Road
Grand Junction, CO 81503
970-248-6073

-----Original Message-----
From: Widdop, Michael
Sent: Thursday, July 09, 2009 3:51 PM
To: Widdop, Michael; Bush, Richard
Cc: Cummins, Laura; Traub, David; Hall, Steve
Subject: RE: Review commentsJuly 7 (3)

Rich, last sentence revised. Please use attached.

Dave will be out most of next week. Please ask Laura or Steve for assistance if there is more we can do for you.

Thanks.

Mike

-----Original Message-----
From: Widdop, Michael
Sent: Thursday, July 09, 2009 3:39 PM
To: Bush, Richard
Cc: Cummins, Laura; Traub, David; Hall, Steve
Subject: Review commentsJuly 7 (3)

Rich, draft comments attached. The response deadline is 7/13.

Thanks.

Mike

Review commentsJuly 7 (3).doc

Andrew Bain
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, California 94105

Subject: DOE Comments on the *Engineering Evaluation/Cost Analysis, Northeast Church Rock (NECR) Mine Site, Gallup, New Mexico*, May 30, 2009

Re: Email from Andrew Bain, EPA, to Raymond Plieness, DOE, "NECR: EE/CA Fact Sheet and Public Notice with Meeting Details," June 15, 2009

Dear Mr. Bain

The U.S. Department of Energy (DOE) has reviewed the subject Engineering Evaluation/Cost Analysis (EE/CA) with particular emphasis on long-term care implications, and offers the following observations and comments.

In general, DOE supports the concept of radioactive waste consolidation and the nonproliferation of small disposal sites. It appears from the description in the EE/CA that most of the wastes included in the removal action are similar to those already disposed of in the existing Uranium Mill Tailings Radiation Control Act (UMTRCA) tailings impoundment. However, from a regulatory perspective, DOE understands that these wastes would be considered "non-11e.(2) byproduct material" and as such their disposal in existing mill tailings impoundments would fall under guidance promulgated by the U.S. Regulatory Commission (NRC) in Regulatory Issue Summary 2000-23.

The NRC guidance requires the licensee to demonstrate that disposal of non-11e.(2)materials in an existing tailings impoundment would not cause significant environmental impacts and that disposal will not compromise impoundment performance and closure criteria of Title 10 *Code of Federal Regulations* Part 40 (10 CFR Part 40). NRC is also required to amend the existing source materials license ***after*** concurrence and commitment from DOE to take title to the tailings impoundment. The DOE would require assurance that the design and placement of wastes on or in the existing impoundment would meet cell performance and groundwater protection objectives for the disposal period specified in 10 CFR Part 40, Appendix A (1,000 years or at least 200 years). These requirements would apply to U.S. Environmental Protection Agency (EPA) Alternatives 3B, 4B, and 5A for the Northeast Church Rock (NECR) site.

Given the above framework, DOE submits the following comments:

1. The preferred alternative (Alternative 5A) involves consolidating NECR wastes on top of the existing disposal cell using a liner and a cap. DOE requests assurance that design features of the bottom liner would not cause "bathtubbing" of leachate from the NECR mine wastes, which could lead to excessive load or

overtopping and decrease of slope stability of the existing cell. The existing cell was likely not designed to support the additional load.

2. Another DOE concern with Alternative 5A is that the surcharge caused by placement of NECR materials on the existing cell(s) could accelerate the drainage of remaining contaminated pore fluids from the existing cell. This could change the chemistry of the underlying groundwater system and invalidate the technical basis for the existing or proposed groundwater protection strategy. Groundwater monitoring to assess the effects of the surcharge would be appropriate before DOE accepts responsibility for groundwater protectiveness.
3. It is not clear how the principal threat wastes would be placed in one of the existing cells for Alternatives 3B and 4B. This could entail opening the cell and placing materials inside; or isolating materials on top with a liner and cap. DOE would want assurance that disposal of materials containing higher radium concentrations than the original cell cover was designed to control would not result in excessive radon emanation, cause gamma exposure rates to increase, or result in higher concentrations of hazardous constituents in leachate.
4. Alternatives 3B, 4B, and 5A would require an NRC license amendment pending DOE concurrence and commitment to become the long-term custodian of the wastes. At present, DOE is reluctant to assume long-term care responsibilities and liabilities for non-11e.(2) wastes that DOE is not obligated to accept.
5. Presumably, Alternative 5B would involve disposal of NECR wastes in a separate cell on the UNC Mill Site. Because DOE would not be the long-term custodian, DOE concurrence in this option would not be required. Long-term responsibility for the wastes would remain with UNC and be regulated by EPA. However, DOE would require assurance that cell performance and longevity of the NECR waste impoundment would not degrade groundwater protectiveness. DOE will likely assume responsibility for contaminated groundwater contained within the long-term care boundary that is associated with the existing UMTRCA cell. This could encompass the area in which the new cell would be constructed. DOE would review the evaluation of potential impacts any new cell might have on groundwater over the performance period for the existing cell. If groundwater in the vicinity of the site should exceed any applicable standards in the future, monitoring should be designed to be sufficient to determine the specific source of contamination and identify the party responsible for any corrective action. In keeping with the spirit of 10 CFR 40, Appendix A, Criterion 10, DOE can not suffer the cost of an action to determine the party responsible for groundwater corrective action.
6. DOE submits that the cover design for the existing UMTRCA cell reflects state-of-the-practice that has been advanced by more than 20 years of experience with disposal cell performance evaluations. If the NECR waste were to be placed on or in the UMTRCA cell, DOE recommends that EPA consider incorporating more recent innovations in cover design such as evapotranspiration covers.

Thank you for the opportunity to comment on the proposed NECR EE/CA. Please call me at (970) 248-6073 or email me at rbush@lm.doe..gov with questions.

overtopping and decrease of slope stability of the existing cell. The existing cell was likely not designed to support the additional load.

2. Another DOE concern with Alternative 5A is that the surcharge caused by placement of NECR materials on the existing cell(s) could accelerate the drainage of remaining contaminated pore fluids from the existing cell. This could change the chemistry of the underlying groundwater system and invalidate the technical basis for the existing or proposed groundwater protection strategy. Groundwater monitoring to assess the effects of the surcharge would be appropriate before DOE accepts responsibility for groundwater protectiveness.
3. It is not clear how the principal threat wastes would be placed in one of the existing cells for Alternatives 3B and 4B. This could entail opening the cell and placing materials inside; or isolating materials on top with a liner and cap. DOE would want assurance that disposal of materials containing higher radium concentrations than the original cell cover was designed to control would not result in excessive radon emanation, cause gamma exposure rates to increase, or result in higher concentrations of hazardous constituents in leachate.
4. Alternatives 3B, 4B, and 5A would require an NRC license amendment pending DOE concurrence and commitment to become the long-term custodian of the wastes. At present, DOE is reluctant to assume long-term care responsibilities and liabilities for non-11e.(2) wastes that DOE is not obligated to accept.
5. Presumably, Alternative 5B would involve disposal of NECR wastes in a separate cell on the UNC Mill Site. Because DOE would not be the long-term custodian, DOE concurrence in this option would not be required. Long-term responsibility for the wastes would remain with UNC and be regulated by EPA. However, DOE would require assurance that cell performance and longevity of the NECR waste impoundment would not degrade groundwater protectiveness. DOE will likely assume responsibility for contaminated groundwater contained within the long-term care boundary that is associated with the existing UMTRCA cell. This could encompass the area in which the new cell would be constructed. DOE would review the evaluation of potential impacts any new cell might have on groundwater over the performance period for the existing cell. If groundwater in the vicinity of the site should exceed any applicable standards in the future, monitoring should be designed to be sufficient to determine the specific source of contamination and identify the party responsible for any corrective action. In keeping with the spirit of 10 CFR 40, Appendix A, Criterion 10, DOE can not suffer the cost of an action to determine the party responsible for groundwater corrective action.
6. DOE submits that the cover design for the existing UMTRCA cell reflects state-of-the-practice that has been advanced by more than 20 years of experience with disposal cell performance evaluations. If the NECR waste were to be placed on or in the UMTRCA cell, DOE recommends that EPA consider incorporating more recent innovations in cover design such as evapotranspiration covers.

Thank you for the opportunity to comment on the proposed NECR EE/CA. Please call me at (970) 248-6073 or email me at rbush@lm.doe..gov with questions.

Sincerely,

Richard Bush
UMTRCA lead

cc
Yolande Norman, NRC
Myron Fliegel, NRC
Thomas Pauling, DOE-LM
Raymond Plieness, DOE-LM